

CLAIMS

What is claimed is:

1. A vehicle having an engine and an automated manual transmission (AMT), comprising:
 - an electronically controlled clutch (ECC) that selectively couples said engine and said AMT to transfer drive torque to said AMT; and
- 5 a controller that communicates with said ECC and said engine and that generates a load signal based on an anticipated engine load, that adjusts one of spark timing of said engine and an ECC pressure based on said load signal prior to engagement of said ECC and that adjusts spark timing of said engine based on a rate of change of
- 10 engine speed after engagement of said ECC.
2. The vehicle of claim 1 further comprising a clutch engagement sensor that generates an engagement signal based upon a degree of engagement of said ECC, wherein said controller generates said load signal when the engagement signal is received.
3. The vehicle of claim 1 wherein said clutch engagement sensor generates said engagement signal immediately prior to full engagement of said clutch.
4. The vehicle of claim 1 further comprising:
 - an engine speed sensor that generates an engine speed signal;
 - and
 - a manifold absolute pressure (MAP) sensor that generates a pressure signal, wherein said load signal is based on said engine speed signal and said pressure signal.
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5. The vehicle of claim 4 further comprising a gear ratio sensor that generates a gear signal indicating a current operating gear of said AMT, wherein said load signal is further based on said gear signal.
6. A method of operating an automated manual transmission (AMT) having an electronically controlled clutch (ECC) that is selectively engaged to couple said AMT and said engine, comprising:
 - generating a load signal;
- 5 adjusting one of spark timing of said engine and an ECC pressure based on said load signal prior to engagement of said ECC; and
 - adjusting spark timing of said engine based on a rate of change of engine speed after engagement of said ECC.
7. The method of claim 6 further comprising:
 - generating a shift signal;
 - disengaging said ECC based on said shift signal;
 - shifting gears of said AMT; and
- 5 initiating engagement of said ECC.
8. The method of claim 6 further comprising:
 - initiating engagement of said ECC; and
 - detecting a degree of engagement of said ECC, wherein said load signal is generated when detecting near full engagement of said
- 5 ECC.
9. The method of claim 6 further comprising:
 - generating an engine speed signal; and
 - generating a manifold absolute pressure (MAP) signal, wherein said load signal is based on said engine speed signal and said MAP signal.

10. The method of claim 6 wherein said load signal is an anticipated engine load.
11. A method of shifting gears of an automated manual transmission (AMT) having an electronically controlled clutch (ECC), comprising:
 - initiating engagement of said ECC;
 - detecting a degree of engagement of said ECC;
 - 5 generating a load signal upon detecting near full engagement of said ECC;
 - adjusting spark timing of said engine based on said load signal prior to full engagement of said ECC; and
 - adjusting spark timing of said engine based on a rate of change
- 10 of engine speed after engagement of said ECC.
12. The method of claim 11 wherein said load signal is based on anticipated engine load.
13. The method of claim 11 further comprising:
 - generating a shift signal;
 - disengaging said ECC based on said shift signal; and
 - shifting gears of said AMT.
14. The method of claim 11 further comprising:
 - generating an engine speed signal; and
 - generating a manifold absolute pressure (MAP) signal, wherein
 - 5 said load signal is based on said engine speed signal and said MAP signal.